

WHAT IS CLAIMED IS:

1           1.    An interworking node operatively connectable to a  
2    plurality of call control nodes each including switching  
3    intelligence and narrowband switching fabric and a plurality  
4    of connection control nodes each including broadband  
5    switching fabric, said interworking node comprising:  
6                means for interworking between said plurality of  
7    call control nodes and said plurality of connection control  
8    nodes; and  
9                means for receiving messages from said plurality  
10   of call control nodes, each of said messages including an  
11   identifier associated with one of said plurality of call  
12   control nodes, each of said messages controlling said  
13   interworking means.

1           2.    The interworking node of Claim 1, wherein said  
2   means for interworking comprises:

3               a plurality of resources for interworking between  
4   said plurality of call control nodes and said plurality of  
5   connection control nodes, an assigned one of said plurality  
6   of resources having said identifier of at least one of said  
7   call control nodes associated therewith.

1           3.    The interworking node of Claim 2, wherein said  
2   assigned resource comprises a logical port for supporting  
3   connections between two of said plurality of call control  
4   nodes, said logical port having said identifier of said two  
5   call control nodes associated therewith.

1           4.    The interworking node of Claim 3, wherein said  
2   logical port represents a logical E1 path between said two  
3   call control nodes.

1           5.    The interworking node of Claim 4, wherein said  
2   assigned resource further comprises a call handler within  
3   said interworking node, said logical port being handled by  
4   said call handler.

1           6.    The interworking node of Claim 5, wherein said  
2   assigned resource further comprises a switch device within  
3   said interworking node, said switch device being a logical  
4   device that corresponds to the logical E1 path between said  
5   two call control nodes.

1           7.    The interworking node of Claim 6, wherein said  
2   means for interworking further comprises:

3                   a mapping function for mapping an address for said  
4   switch device to an address for said logical port.

1           8.    The interworking node of Claim 3, wherein said  
2   means for interworking further comprises:

3                means for establishing logical paths between said  
4   logical port and real ports associated with two of said  
5   plurality of connection control nodes.

1           9.    The interworking node of Claim 8, wherein said  
2   means for interworking further comprises:

3                means for establishing a physical connection  
4   between said real ports of said two connection control nodes  
5   for a call connection.

1           10. A system for combining narrowband and broadband  
2 transport mechanisms in a communications network, comprising:  
3           a plurality of call control nodes each including  
4 switching intelligence and narrowband switching fabric;  
5           a plurality of connection control nodes each  
6 including broadband switching fabric; and  
7           at least one intermediate node operatively  
8 connectable to said plurality of call control nodes and said  
9 plurality of connection control nodes, said at least one  
10 intermediate node being adapted to interwork between said  
11 plurality of call control nodes and said plurality of  
12 connection control nodes, said at least one intermediate node  
13 being controlled by all of said plurality of call control  
14 nodes.

1           11. The system of Claim 10, wherein said plurality of  
2 connection control nodes comprise at least part of a  
3 broadband network.

1           12. The system of Claim 10, wherein each said call  
2 control node of said plurality of call control nodes has an  
3 identity associated therewith, each said call control node  
4 of said plurality of call control nodes including said  
5 respective identity with each message transmitted to said  
6 intermediate node.

1           13. The system of Claim 12, wherein said intermediate  
2 node has a plurality of resources therein for interworking  
3 between said plurality of call control nodes and said  
4 plurality of connection control nodes, an assigned one of  
5 said plurality of resources having said identity of at least  
6 one of said call control nodes associated therewith.

1           14. The system of Claim 13, wherein said assigned  
2 resource comprises a logical port for supporting connections  
3 between two of said plurality of call control nodes, said  
4 logical port having said identity of said two call control  
5 nodes associated therewith.

1           15. The system of Claim 14, wherein said logical port  
2 represents a logical E1 path between said two call control  
3 nodes.

1           16. The system of Claim 15, wherein said assigned  
2 resource further comprises a call handler within said  
3 intermediate node, said logical port being handled by said  
4 call handler.

1           17. The system of Claim 16, wherein said assigned  
2 resource further comprises a switch device within said  
3 intermediate node, said switch device being a logical device  
4 that corresponds to the logical E1 path between said two call  
5 control nodes.

1           18. The system of Claim 17, wherein said intermediate  
2 node further comprises a mapping function for mapping an  
3 address for said switch device to an address for said logical  
4 port.

1           19. The system of Claim 14, wherein said intermediate  
2 node is further adapted to establish logical paths between  
3 said logical port and real ports associated with two of said  
4 plurality of connection control nodes.

1           20. The system of Claim 19, wherein said intermediate  
2 node is further adapted to establish a physical connection  
3 between said real ports of said two connection control nodes  
4 for a call connection.



1           21. A method for combining narrowband and broadband  
2 transport mechanisms in a communications network, comprising  
3 the steps of:

4                 providing a plurality of call control nodes each  
5 including switching intelligence and narrowband switching  
6 fabric;

7                 providing a plurality of connection control nodes  
8 each including broadband switching fabric; and

9                 interworking between said plurality of call control  
10 nodes and said plurality of connection control nodes using  
11 at least one intermediate node, said at least one  
12 intermediate node being controlled by all of said plurality  
13 of call control nodes.

1           22. The method of Claim 21, wherein each said call  
2 control node of said plurality of call control nodes has an  
3 identity associated therewith, and further comprising the  
4 step of:

5           transmitting a message from a sending one of said  
6 plurality of call control nodes, said message including said  
7 identity of said sending call control node.

1           23. The method of Claim 22, wherein said intermediate  
2 node has a plurality of resources therein for interworking  
3 between said plurality of call control nodes and said  
4 plurality of connection control nodes, and further comprising  
5 the step of:

6           assigning said identity of at least one of said  
7 plurality of call control nodes to an assigned one of said  
8 plurality of resources.

1           24. The method of Claim 23, wherein said assigned  
2   resource comprises a logical port for supporting connections  
3   between two of said plurality of call control nodes, and  
4   wherein said step of assigning further comprises the step of:  
5            assigning said identity of said two call control  
6   nodes to said logical port.

1           25. The method of Claim 24, wherein said assigned  
2   resource further comprises a call handler within said  
3   intermediate node, and further comprising the step of:  
4            handling said logical port by said call handler.

1           26. The method of Claim 25, wherein said assigned  
2   resource further comprises a switch device within said  
3   intermediate node corresponding to a logical E1 path between  
4   said two call control nodes, and further comprising the step  
5   of:  
6            mapping between an address for said switch device  
7   and an address for said logical port.

1           27. The method of Claim 24, further comprising the step  
2 of:  
3           establishing logical paths between said logical  
4 port and real ports associated with two of said plurality of  
5 connection control nodes.

1           28. The system of Claim 27, further comprising the step  
2 of:  
3           establishing a physical connection between said  
4 real ports of said two connection control nodes for a call  
5 connection.

1           29. A method for supporting control of at least one  
2 intermediate node by a plurality of call control nodes in a  
3 communications network, said plurality of call control  
4 nodes each including switching intelligence and narrowband  
5 switching fabric, said intermediate node interworking between  
6 said plurality of call control nodes and a plurality of  
7 connection control nodes each having broadband switching  
8 fabric, said method comprising the steps of:

9           providing each said call control node of said  
10 plurality of call control nodes with an identity; and

11           assigning said identity of at least one of said  
12 plurality of call control nodes to an assigned one of a  
13 plurality of resources within said intermediate node, said  
14 plurality of resources for interworking between said  
15 plurality of call control nodes and said plurality of  
16 connection control nodes.

1           30. The method of Claim 29, further comprising the step  
2 of:

3           transmitting a message from a sending one of said  
4 plurality of call control nodes, said message including said  
5 identity of said sending call control node.

1           31. The method of Claim 29, wherein said assigned  
2 resource comprises a logical port for supporting connections  
3 between two of said plurality of call control nodes, and  
4 wherein said step of assigning further comprises the step of:  
5           assigning said identity of said two call control  
6 nodes to said logical port.

1           32. A method for establishing a call connection between  
2 two call control nodes controlling an intermediate node, said  
3 two call control nodes each including switching intelligence  
4 and narrowband switching fabric, said call connection being  
5 established through a broadband network via at least one  
6 connection control node having broadband switching fabric,  
7 said method comprising the steps of:

8                 assigning a logical port within said intermediate  
9 node to said two call control nodes, said logical port for  
10 interworking between said two call control nodes and said at  
11 least one connection control nodes;

12                 establishing logical paths between said logical  
13 port and real ports associated with said at least one  
14 connection control node; and

15                 establishing a physical connection between said  
16 real ports of said at least one connection control node for  
17 a call connection.